AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are or were in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier.

1. – 19. (Canceled).

20. (Currently Amended) A process for preparing a furanose comprising:

(a) adding CaO to a solution of D-fructose ~~reacting aqueous CaO with a cyclic ether that contains a hydroxyl and a CH_2OH on the carbon adjacent to the ring oxygen~~, thereby forming 2-C-methyl-D-ribono-lactone ~~a furanyl lactone~~;

(b) optionally protecting 2-C-methyl-D-ribono-lactone ~~the furanyl lactone~~ with a protecting group ~~if necessary~~;

(c) reacting ~~the~~ optionally protected 2-C-methyl-D-ribono-lactone ~~furanyl lactone~~ with a reducing agent selected from the group consisting of NaHTe, SmI_2, H_2 and a Pd-phosphine catalyst, and $LiAl(O^tBu)_3H$ to reduce the lactone to a hydroxyl group, creating ~~a furanose product~~ an optionally protected 2-C-methyl-D-ribofuranose compound; and

(d) optionally reacting the ~~furanose product~~ optionally protected 2-C-methyl-D-ribofuranose compound with a protecting group.

21. – 22. (Canceled).

23. (Currently Amended) The process of claim 20 wherein the optionally protected 2-C-methyl-D-ribono-lactone ~~furanyl lactone~~ is 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribono-lactone.

24. (Currently Amended) The process of claim 20 wherein the ~~furanose~~ optionally protected 2-C-methyl-D-ribofuranose is 2,3,5-tri-O-benzoyl-2-C-methyl-β-D-ribofuranose.

25. (Original) The process of claim 20 wherein the protected furanose is 1,2,3,5-tetra-O-benzoyl-2-C-methyl-β-D-ribofuranose.

26. (Original) The process of claim 20 wherein the protecting group is selected from the group consisting of silyl, benzoyl, p-toluoyl, p-nitrobenzoyl, p-chlorobenzoyl, acyl, acetyl, -(C=O)-alkyl, and -(C=O)-aryl, optionally substituted with one or more groups not affected by the reducing agent of step (c).

27. (Original) The process of claim 26 wherein the protecting group is benzoyl.

28. (Original) The process of claim 26 wherein the protecting group is -(C=O)-alkyl.

29. – 30. (Canceled).

31. (Currently Amended) The process of claim 20, wherein the reactions are carried out in a solvent selected from the group consisting of water, toluene, THF, dioxane, acetonitrile, DMF, dimethylsulfoxide and ethanol.

32. (Currently Amended) The process of claim 20 wherein the reaction temperature of step (a) varies from about –5 °C to about 50 °C ~~for the first product compound lactone~~.

33. (Original) The process of claim 20 wherein the total time for synthesis is from about 5 days to about 14 days.

34. (Original) The process of claim 33 wherein the total time for synthesis is from about 5 days to 10 days.

35. (Original) The process of claim 33 wherein the total time for synthesis is about 60 hours.

36. (Currently Amended) The ~~A~~ process of claim 20, comprising:

a) adding CaO to an aqueous solution of D-fructose ~~reacting aqueous CaO with D-fructose~~;

b) reacting the product from step (a) with CO_2 and oxalic acid[[,]] to form 2-C-methyl-D-ribonolactone;

c) reacting 2-C-methyl-D-ribonolactone with benzoyl chloride to provide 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribonolactone;

d) reducing 2,3,5-tri-O-benzoyl-2-C-methyl-D-ribonolactone with a reducing agent selected from the group consisting of NaHTe, SmI_2, H_2 and a Pd-phosphine catalyst, and $LiAl(O^tBu)_3H$ to afford 2,3,5-tri-O-benzoyl-2-C-methyl-β-D-ribofuranose;

e) benzoylating 2,3,5-tri-O-benzoyl-2-C-methyl-β-D-ribofuranose in solvent to form 1,2,3,5-tetra-O-benzoyl-2-C-methyl-β-D-ribofuranose; and

f) optionally isolating the 1,2,3,5-tetra-O-benzoyl-2-C-methyl-β-D-ribo-furanose.

37. (Previously Presented) The process of claim 36, step (a), wherein the reaction time is from about 5 to about 25 hours.

38. (Original) The process of claim 36, step (a), wherein the temperature is from about 23 to about 40 °C.

39. (Original) The process of claim 36, step (c), wherein the solvent is DME.

40. (Previously Presented) The process of claim 36, step (c), wherein the reaction proceeds for about 3 to 6 hours.

41. (Previously Presented) The process of claim 36, step (d), wherein reduction proceeds for about 30 to 60 minutes.

42. (Original) The process of claim 36, step (d), wherein the solvent comprises toluene.

43. (Original) The process of claim 36, step (e), wherein the solvent comprises DME.

44. (Previously Presented) The process of claim 36, step (e), wherein the temperature is from about 0 to about 50 °C.

45. – 49. (Canceled).

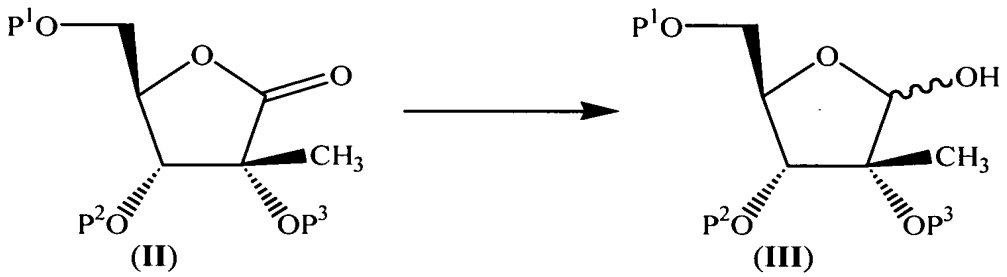
50. (Original) A process for preparing an optionally protected 2-C-methyl-β-D-ribofuranose compound comprising:

a) reducing an optionally protected 2-C-methyl-D-ribonolactone with Red-Al/ethanol to obtain an optionally protected 2-C-methyl-β-D-ribofuranose.

51. – 63. (Canceled).

64. (Currently Amended) A process for preparing an optionally protected 2-C-methyl-β-D-ribofuranose comprising the steps of:

a) reducing an optionally protected 2-C-methyl-D-ribonic lactone with a reducing agent selected from the group consisting of NaHTe, SmI_2, H_2 and a Pd-phosphine catalyst, and $LiAl(O^tBu)_3H$



(II) **(III)**

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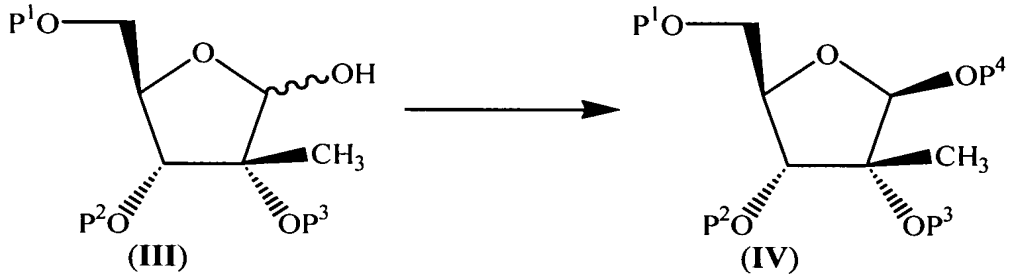
wherein each P^1, P^2, and P^3 is independently hydrogen or a suitable oxygen protecting group; and
~~and then~~

b) optionally protecting the ribofuranose derivative compound of the previous step to form an optionally protected 2-C-methyl-β-D-ribofuranose



wherein P^4 is independently hydrogen or a suitable oxygen protecting group.

65. (Original) The process of claim 64, wherein, each P^1, P^2, P^3, and P^4 is independently hydrogen or an acyl.

66. (Original) The process of claim 64, wherein, each P^1, P^2, P^3, and P^4 is independently hydrogen or a benzoyl.

67. (Previously Presented) The process of claim 64, wherein the reducing agent is $LiAl(O^tBu)_3H$, optionally in a solvent.

68. (Previously Presented) The process of claim 64, wherein the reducing agent is H_2 and a Pd-phosphine catalyst.

69. – 88. (Canceled).

89. (Previously Presented) The process of claim 64, wherein the reducing agent is NaHTe.

90. (Previously Presented) The process of claim 64, wherein the reducing agent is SmI_2.

91. (New) The process of claim 20, wherein the total time for synthesis is less than 60 hours.

92. (New) The process of claim 20, comprising:

(a) adding CaO to an aqueous solution of D-fructose;

(b) reacting the product from step (a) with CO_2 and oxalic acid, to form 2-C-methyl-D-ribonolactone;

(c) separating any resulting solid and aqueous phases;

(d) treating the aqueous phase with an acid;

(e) adding an organic solvent to the product of step (d);

(f) separating the organic and aqueous phases and evaporating the organic solvent of the organic phase, thereby isolating 2-C-methyl-D-ribono-lactone;

(g) optionally protecting 2-C-methyl-D-ribono-lactone with a protecting group if necessary;

(h) reacting optionally protected 2-C-methyl-D-ribono-lactone with a reducing agent selected from the group consisting of NaHTe, SmI_2, H_2 and a Pd-phosphine catalyst, and $LiAl(O^tBu)_3H$ to reduce the lactone to a hydroxyl group, creating an optionally protected 2-C-methyl-D-ribofuranose compound; and

(i) optionally reacting the optionally protected 2-C-methyl-D-ribofuranose compound with a protecting group.